

**What is claimed is:**

1. A modular auxiliary oven assembly for use with a gas chromatograph, which oven assembly is comprised of a first housing having at least one inlet fluidly connected to at least one outlet, which housing has contained therein:
  - a) an oven which is enclosed in a second housing and containing at least one inlet that is fluidly connected to at least one inlet of the housing and at least one outlet that is fluidly connected to at least one outlet of the housing, which oven has contained therein;
    - i) one or more multiport chromatographic sampling valves having inlet ports and outlet ports wherein said sampling valve is capable of receiving a fluid sample in an inlet port and directing it to an outlet port, and wherein one of its inlet ports is fluidly connected to an inlet of said housing;
    - ii) one or more fixed volume sampling means that is either an integral part of each one or more sampling valve or is external to the sampling valve;
    - iii) one or more chromatograph column or column trains capable of separating chemical components of a chemical sample wherein each column has a first end and a second end, wherein its first end is fluidly connected to an outlet port of a chromatographic sampling valve and its second end is fluidly connected to the outlet of said first enclosed compartment; and
    - iv) at least one heater; and
  - b) an actuating mechanism associated with each sampling valve for switching the sampling valve position for directing the flow of fluid through the sampling valve.
2. The modular oven assembly of claim 1 wherein there is provided a series of two or more chromatograph columns in a column train.
3. The modular oven assembly of claim 1 that contains two sampling valves.

4. The modular oven assembly of claim 1 which contains to column or column trains with are independent and parallel to each other so that a different analysis can be performed in each column or column train.
5. The modular oven assembly of claim 1 wherein the column is a capillary column.
6. The modular oven assembly of claim 1 wherein two or more columns are present in a parallel configuration and wherein at least one of the columns is a capillary column.
7. The modular oven assembly of claim 1 which is integrated with a valved gas chromatograph by fluidly connecting the outlet of the housing of the oven assembly to the inlet of a detector of the gas chromatograph.
8. The modular oven assembly of claim 1 wherein at least one of the chromatographic columns of the oven compartment is a column having a geometry selected to maximize the carrier gas linear velocity and sample capacity without overwhelming the column or detector.
9. The modular oven assembly of claim 7 wherein the gas chromatograph contains at least one capillary column.
10. The modular oven assembly of claim 9 wherein the gas chromatograph contains both a flame ionization detector and a thermal conductivity detector.